

ABSTRACT OF THE DISCLOSURE

A process of forming a high resistance CMOS resistor with a relatively small die size is provided. According to an aspect of the present invention, the process of fabricating a high resistance resistor is a standard CMOS process that does not require any additional masking. An n-well is firstly formed in a p-type silicon substrate. A nitride film is then deposited and patterned to form a patterned mask layer. The patterned mask layer serves as a mask. A p-field region is formed in the n-well to form a CMOS resistor. The CMOS resistor according to the present invention has a resistance of $10\text{k}\Omega$ - $20\text{k}\Omega$ per square.